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U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.
1280-4014 US4
ENZ-1 (C) Div. III

Sheet 1 of 25

SERIAL NO.
07/130,040

Information Disclosure Statement
Filed By Applicant
(Use several sheets if necessary)

APPLICANT
David C. Ward, et al.

FILING DATE
December 8, 1987

GROUP
1807

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AM	AA 3 3 2 8 3 8 9	6/27/67	Shimizu et al.	260	211.5	
AM	AB 3 3 3 7 5 3 0	8/22/67	Kanzo	260	211.5	
AM	AC 3 3 3 8 8 8 2	8/29/67	Wechter	260	211.5	
AM	AD 3 8 0 4 8 2 6	4/10/74	Schelt et al.	260	211.5R	
AM	AE 3 8 9 3 9 9 8	7/3/75	John A. Secrist III, et al.	260	211.5R	
AM	AF 3 9 1 5 9 5 8	10/28/75	Shuman et al.	260	211.5R	
AM	AG 3 9 1 7 5 8 3	11/4/75	Meyer et al.	260	211.5R	
AM	AH 3 9 6 0 8 4 0	6/1/76	John A. Secrist III et al.	260	211.5R	
AM	AI 3 9 6 8 1 0 1	7/6/76	Christensen et al.	260	211.5R	
AM	AJ 4 0 0 8 3 6 3	2/15/77	Luciano Re et al.	536	28	
AM	AK 4 0 3 8 4 8 0	7/26/77	Robins et al.	536	27	

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AM AL 2 6 1 8 4 1 9	11/4/76	German Offenlegungsschrift	2		
AM AM 2 6 1 8 5 1 1	11/4/76	German Offenlegungsschrift	2		X
AM AN 3 0 4 5 3 7 5	7/1/82	German Offenlegungsschrift	3		X
AM AO 2 0 1 9 4 0 8	10/31/79	United Kingdom Pat. Appln.	3		X
AM AP 2 0 2 6 6 9 0	2/6/80	United Kingdom Pat. Appln.	3		

Other Documents (Including Author, Title, Date, Pertinent Pages, Etc.)

J. G. J. Bauman et al., "A New Method for Fluorescence Microscopical Localization of Specific DNA Sequences by In Situ Hybridization of Fluorochrome-Labelled RNA", Exp. Cell Res., 128, pp. 485-90 (1980) ("Bauman I")

J. G. J. Bauman et al., "Rapid and High Resolution Detection of in situ Hybridisation to Polytene Chromosomes Using Fluorochrome-Labelled RNA," Chromosoma (Berl.) 84, pp. 1-18 (1981) ("Bauman II")

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AM	AA	4 0 4 8 3 0 7	9/13/77	Yokota et al.	424	180	
AM	AB	4 0 8 6 4 1 7	4/25/78	Ishida et al.	536	29	
AM	AC	4 0 8 8 6 3 9	5/9/78	Zappelli et al.	260	112.5R	
AM	AD	4 0 9 6 3 2 4	6/20/78	Kelly et al.	536	23	
AM	AE	4 1 3 4 7 9 2	1/16/79	Boguslaski et al.	195	99	
AM	AF	4 1 5 1 3 4 9	4/24/79	Traeger et al.	536	28	
AM	AG	4 1 7 1 4 3 2	10/16/79	Carrico et al.	536	26	
AM	AH	4 2 1 3 8 9 3	7/22/80	Carrico et al.	260	112.5	
AM	AI	4 2 2 8 2 3 7	10/14/80	Hevey et al.	435	7	
AM	AJ	4 2 3 0 6 9 8	10/28/80	Bobek et al.	424	180	
AM	AK	4 2 3 0 7 9 7	10/28/80	Boguslaski, et al.	435	7	

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AM	AL	2 0 3 4 3 2 3	6/4/80	United Kingdom Pat. Appln.	3		
AM	AM	2 0 4 1 9 2 2	9/17/80	United Kingdom Pat. Appln.	3		
AM	AN	2 0 4 5 2 3 9	10/29/80	United Kingdom Pat. Appln.	3		
AM	AO	2 1 2 5 9 6 4	3/14/84	United Kingdom Pat. Appln.	3		
AM	AP	0 7 0 6 8 5	1/26/83	EPO Patent Application	3		

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E. A. Bayer and M. Wilchek, "The Use of the Avidin-Biotin Complex as a Tool in Molecular Biology," in Methods of Biochemical Analysis, 26, pp. 1-45 (1980)

D. Bergstrom and M. Ogawa, "C-5 Substituted Pyrimidine Nucleosides. 2. Synthesis Via Olefin Coupling To Organopalladium Intermediates Derived From Uridine and 2'-Deoxyuridine, J. Am. Chem. Soc., 100, pp. 8106-8112 (1978) ("Bergstrom I")

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AM	AA 4 2 4 7 5 4 4	1/27/81	Bergstrom et al.	424	180	
	AB					
AM	AC 4 2 6 1 8 9 3	4/14/81	Boguslaski et al.	260	326N	
AM	AD 4 2 6 7 1 7 1	5/12/81	Bergstrom et al.	424	180	
AM	AE 4 3 0 2 2 0 4	11/24/81	Wahl et al.	23	230.3	
AM	AF 4 3 1 8 9 8 0	3/9/82	Boguslaski et al.	435	7	
AM	AG 4 3 1 8 9 8 1	3/9/82	Burd et al.	435	7	
AM	AH 4 3 1 8 9 8 2	3/9/82	Hornby et al.	435	7	
AM	AI 4 3 5 5 1 6 5	10/19/82	Boguslaski et al.	544	237	
AM	AJ 4 3 5 8 5 3 5	11/9/82	Falkow et al.	435	5	
AM	AK 4 3 6 3 7 5 9	12/14/82	Boguslaski et al.	260	112.7	

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DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AM AL 7 0 6 8 7	1/26/83	EPO Patent Application	5		
AM AM 1 5 4 8 7 4 1	7/18/79	Great Britain Patent	2	33/16	
AM AN 1 5 5 2 6 0 7	9/19/79	Great Britain Patent	2	33/16	
AM AO 4 3 2 4 1 9 1	10/18/43	Japanese Patent Application	16E	611.2	X
AM AP 5 8 6 2 1 9 4	4/13/83	Japanese Patent Application	3007H	19/06	X

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AM	AS	C. F. Bigge et al., "Palladium-Catalyzed Coupling Reactions of Uracil Nucleosides and Nucleotides," J. Am. Chem. Soc., 102, pp. 2033-2038 (1980)
AM	AT	C. Brandon et al., "Structure of a New Pyrimidine from Bacillus Subtilis Phage SP-15 Nucleic Acid", Nature New Biology, 239, pp. 70-71 (1972)

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AM	AA	4 3 7 4 9 2 5	2/22/83	Litman et al.			
AM	AB	4 3 8 0 5 8 0	4/19/83	Boguslaski et al.	435	7	
AM	AC	4 3 8 3 0 3 1	5/10/83	Boguslaski et al.	435	7	
AM	AD	4 4 4 6 2 3 1	5/1/84	Self	435	7	
AM	AE	4 4 6 9 8 6 3	9/4/84	Ts'o et al.	435	7	
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AM	AL	8 3 0 2 2 7 6	7/7/83	FCT Patent Application	3C07H	19/20	X* *
AM	AM	8 3 0 2 2 7 7	7/7/83	FCT Patent Application	3C07H	21/00	X* *
AM	AN	8 3 0 2 2 8 6	7/7/83	FCT Patent Application	3C12Q	1/68	X* *
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AM	AR	T. R. Broker et al., "Electron Microscopic Visualization Of tRNA Genes with Ferritin-Avidin: Biotin Labels," Nucl. Acids Res., 5, pp. 363-83 (1978)
	AS	R. M. K. Dale et al., "Direct Covalent Mercuration of Nucleotides and Polynucleotides," Biochemistry, 14, pp. 2447-2457 (1975) [Dale 1"]
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* United States patent application
** Abstract only.

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AR	R. M. K. Dale et al., "The Synthesis and Enzymatic Polymerization of Nucleotides Containing Mercury: Potential Tools for Nucleic Acid Sequencing and Structural Analysis," <u>Proc. Natl. Acad. Sci. USA</u> , 70, pp. 2238-2242 (1973)
AS	W. S. Dallas and S. Falkow, "Molecular and Genetic Analysis of a DNA Sequence Encoding for Enterotoxin Synthesis in <u>Escherichia Coli</u> ," <u>Thirteenth Joint Conference on Cholera, The U.S.-Japan Cooperative Medical Science Program (1979)</u>
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AM	AR	W. S. Dallas et al., "The Characterization of an Escherichia Coli Plasmid Determinant That Encodes for the Production of a Heat-Labile Enterotoxin," <u>Plasmids of Medical Environmental and Commercial Importance</u> , K. N. Timmis and A. Puhler, editors, Elsevier/North-Holland Biomedical Press (1979) ("Dallas II")
AM	AT	D. J. Eckermann and R. H. Symons, "Sequence at the Site of Attachment of an Affinity-Label Derivative of Puromycin on 23-S Ribosomal RNA of <u>Escherichia coli</u> Ribosomes," <u>Eur. J. Biochem.</u> , 82, pp. 225-34 (1978)

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AR		M. Ya. Feldman, <u>Reactions of Nucleic Acids and Nucleoproteins With Formaldehyde</u> , Ed. (19__)
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AM	AT	M. Grunstein and D. Hogness, "Colony Hybridization: A Method for the Isolation of Cloned DNAs That Contain a Specific Gene", <u>Proc. Natl. Acad. Sci. USA</u> , 72, pp. 3961-65 (1975)

EXAMINER

Arthur Marshall

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Sheet 8 of 25

Form PTO-1449 (REV. 7-45) (modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 1280-4014 US4 ENZ-1 (C) Div. III	SERIAL NO. 07/130.070
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		FILING DATE December 8, 1987	GROUP 1807

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AM	AR	J. L. Guesdon et al., "The Use of Avidin-Biotin Interaction In Immunoenzymatic Techniques", <u>J. Histochem. and Cytochem.</u> 27, pp. 1131-39 (1979)
AM	AS	H. Hayashi and K. Nakanishi, "Synthesis and Absolute Configuration of (+)-5-(4',5'-Dihydroxypentyl)uracil from <u>Bacillus Subtilis</u> Phage SP-15 Deoxyribonucleic Acid," <u>J. Am. Chem. Soc.</u> , 95, pp. 4081-4083 (1973) (Hayashi I)
AM	AT	H. Hayashi et al. "Structure and Synthesis of Dihydroxypentyl-uracil from Bacteriophage SP-15 Deoxyribonucleic Acid," <u>J. Am. Chem. Soc.</u> , 95, pp. 8749-8757 (1973) (Hayashi II)

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REV. 7-101

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AM	AR	K. Hofmann et al., "Iminobiotin Affinity Columns And Their Application To Retrieval Of Streptanidin", <u>Proc. Natl. Acad. Sci. USA</u> , 77, pp. 4666-68 (1980)
AM	AS	E. S. Huang and J. S. Pagano, "Nucleic Acid Hybridization Technology and Detection of Proviral Genomes," <u>Methods Virol.</u> 6, pp. 457-497 (1977)
AM	AT	A. M. Jeffrey et al., "Benzo[a] pyrene-Nucleic Acid Derivative Found In Vivo: Structure of a Benzo[a] pyrenetetrahydrodiol Epoxide-Guanosine Adduct," <u>J. Am. Chem. Soc.</u> , 98, pp. 5714-5715 (1976)

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Andr. Masabel

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AM	AR	R. G. Kallen et al., "The Occurrence of a New Pyrimidine Base Replacing Thymine in a Bacteriophage DNA: 5-Hydroxymethyl Uracil," <u>J. Mol. Biol.</u> 5, pp. 248-250 (1962)
AM	AS	D. E. Kennel, "Principles And Practicss of Nucleic Acid Hybrid-ization," <u>Pro. Nucl. Acid Res.</u> , 11, 259-301 (1971)
AM	AT	M. Koreeda et al., "Alkylation of Polyguanylic Acid at the 2-Amino Group and Phosphate by the Potent Mutagen (±)-7β, 8α-Dihydroxy-9β, 10β epoxy -7,8,9,10-tetrahydrobenzo[a]pyrene," <u>J. Am. Chem. Soc.</u> , 98, pp. 6720-6722 (1976)

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PM	AR	T. T. Kuo et al., "5-Methylcytosine Replacing Cytosine in the Deoxyribonucleic Acid of a Bacteriophage for <u>Xanthomonas oryzae</u> ," <u>J. Mol. Biol.</u> , 34, pp. 373-375 (1968)
AM	AS	P. R. Langer et al., "Enzymatic Synthesis of Biotin-Labeled Polynucleotides: Novel Nucleic Acid Affinity Probes", <u>Proc. Natl. Acad. Sci. USA</u>, 78, pp. 6633-37 (1981)
	AT	["Langer"]

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P. R. Langer and D. C. Ward, "A Rapid and Sensitive Immunological Method For In Situ Gene Mapping," in Developmental Biology Using Purified Genes, ed. D. D. Brown, Academic Press, pp. 647-58 (1981) ["Langer II"]

P.R. Langer and D. C. Ward, Abstract 1153: "A Rapid and Sensitive Immunological Method For In Situ Gene Mapping," in Journal of Supramolecular Structure and Cellular Biology, ed. Alan R. Liss, Inc. (1981) ["Langer III"]

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APPLICANT
David C. Ward, et al.

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APPLICANT **David C. Ward, et al.**

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